

ABSTRACT

A magnetic sensor 10 includes GMR elements 11-18, and heating coils 21-24 serving as heat generating elements. The elements 11-14 and 15-18 are bridge-interconnected to constitute X-axis and Y-axis sensors, respectively. The heating coils 21, 22, 23, and 24 are disposed adjacent to the elements 11 and 12, the elements 13 and 14, the elements 15 and 16, and the elements 17 and 18, respectively. The heating coils 21-24, when electrically energized, heat mainly the adjacent elements. Therefore, the elements can be heated and cooled in a short period of time in which constant geomagnetism can be ensured. Data for compensation of temperature-dependent characteristic (ratio of change in sensor output value to variation in element temperature) is obtained on the basis of the temperatures of the elements before and after the heating, and the magnetic sensor outputs before and after the heating. Subsequently, the temperature characteristics of the elements are compensated on the basis of the data.